CHAPTER 1
Introduction

The South Florida Water Management District (SFWMD or District) has undertaken development of long-term comprehensive regional water supply plans. Chapter 373, Florida Statutes (F.S.), requires the District to prepare water supply plans for regions that are anticipated to have demands exceeding the identified supply sources over a 20 year future planning horizon. The SFWMD has committed to preparing water supply plans for each of its four planning regions (**Figure 1**), which cumulatively cover the entire District. These regions are generally defined by hydrologic divides.

PURPOSE

The purpose of water supply planning is to develop strategies to meet future water demands of urban and agricultural uses while meeting the needs of the environment. This process identifies areas where historically used sources of water will not be adequate to meet future demands, and evaluates several water source options to meet the deficit.

Legal Authority and Requirements

Water supply planning activities were first required of the state's water management districts following adoption of the Florida Water Resources Act of 1972 (Chapter 373, F.S.). The authors of "A Model Water Code" (Maloney et al., 1972), upon which much of Chapter 373, F.S. is based, theorized that proper water resource allocation could best be accomplished within a statewide, coordinated planning framework. The State Water Use Plan and the State Water Policy were the primary documents formulated to meet this objective. In 1997, Chapter 373, F.S., was revised to more specifically define regional water supply planning. This Plan is based upon these statutory requirements. The details of Florida water law are included in the Consolidated Support Document.

PLAN GOALS AND OBJECTIVES

The former advisory committee of the Kissimmee Basin Water Supply Plan (KB Plan) adopted the following goal and objectives to guide development of the water supply plan to ensure the water needs of this region will be met. It is proposed that the goal and objectives be only slightly updated for a planning horizon through 2025.

Plan Goal

The water resource goal of the state was incorporated into the goal for the KB Plan:

> Identify sufficient sources of water and funding to meet the needs of all reasonable-beneficial uses within the Kissimmee Basin Planning Area for the year 2025 during a drought event that has the probability of occurring no more frequently than once every ten years, while sustaining the water resources and related natural systems.

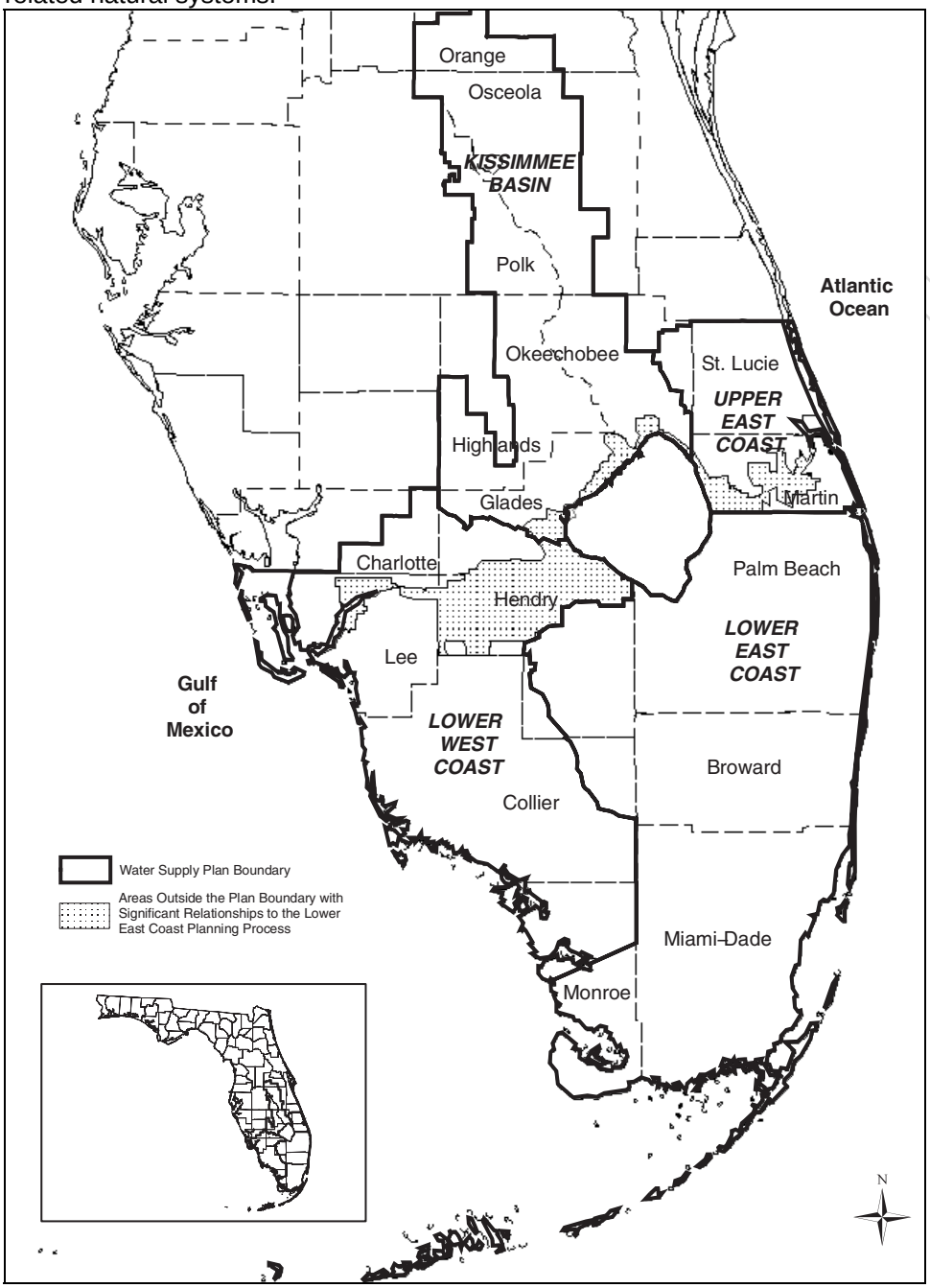

Figure 1. Planning Regions of the South Florida Water Management District.

Plan Objectives

The following regional objectives (no implied priority) were adopted to ensure the Kissimmee Basin Water Supply Plan addresses the specific needs of the region:

Objective 1. Water Supply: Identify and increase the use of alternative water sources where necessary.

Objective 2. Natural System Protection: Protect natural systems from harm due to water uses.

Objective 3. Level of Certainty: Identify options that will provide a 1-in-10 year level of certainty for all existing and projected reasonable-beneficial uses.

Objective 4. Compatibility with Local Governments: Achieve compatibility of the KB Water Supply Plan with tribal and local government land use decisions and policies.

Objective 5. Linkage with Other Regional Planning efforts: Achieve compatibility and integration with other related regional water resource planning efforts, including, but not limited to, Kissimmee River Restoration, long term management plan for the Upper Kissimmee Basin, the Lake Okeechobee watershed management, the Comprehensive Everglades Restoration Plan (CERP), local government comprehensive plans, other SFWMD water supply plans and Southwest Florida Water Management District and St. Johns River Water Management District water supply planning efforts.

Objective 6. Conservation of Water Sources: Promote water conservation and efficient use of water sources.

Objective 7. Water Supply Demands: Define water supply demand projections up to the year 2025 for all reasonable-beneficial uses for the 1-in-10 year level of certainty.

Objective 8. Funding: Identify adequate sources of funding to support water resource development and water supply development options identified in the plan.

Objective 9. Water Resource Protection: Protect water resources (aquifers, lakes, wetlands) from harm due to water uses, including preventing harmful movement of saline water within the Floridan Aquifer System as a result of water use.

The goal and associated objectives captured the key expectations and concerns in the Kissimmee Basin planning area. These in turn, provided direction for the 2020 planning process and again for the 2025 plan development.

PLANNING PROCESS

The Florida Department of Environmental Protection (FDEP) and the water management districts of Florida met several times between 2000-2003 to discuss the outline and contents of regional water supply plans. The outline for this report is based upon that agreed upon format. Although the format is not fixed, the District agreed to the content of the report and provides this information in the form of a three document set including a Consolidated Support Document that addresses all four planning areas. The configuration of this report conforms to the agreed upon format.

Districtwide Water Supply Assessment

As mentioned above, in 1997 Chapter 373, F.S., was modified, changing several water supply planning requirements. Among these was the introduction of a requirement for each water management district to prepare a Districtwide Water Supply Assessment (DWSA). Part of the analysis completed in the DWSA was to identify areas that had the potential for demands exceeding available supplies (without causing unacceptable environmental impacts) over a 20-year future time horizon, and for these areas, each District was required to prepare regional water supply plans. Based in part in the DWSA completed in July 1998, the District made the decision to prepare water four regional supply plans that cumulatively cover the entire SFWMD.

The District has updated the DWSA 2003 (pending) providing updated water demand assessments for 2000 and projections for 2025 for all categories of uses. Water demands are presented for the water use categories of:

- Public water supply
- Domestic self supply and small public systems
- Commercial/Industrial self supply
- Recreational self supply
- Thermoelectric power generation self supply
- Agricultural self supply

Regional Water Supply Plans

Analyses are conducted within each regional water supply plans (RWSP) that evaluate the impacts of projected demands on available water resources and water resource related natural systems. If impacts are projected to be more severe than a

defined threshold, then recommendations are made to promote the availability of additional water resources until the impacts are reduced below the threshold or are otherwise mitigated.

Each regional water supply plan is based on at least a 20-year future planning horizon and includes, but not limited to the following components:

- A water supply development component
- A water resource development component
- A recovery and prevention strategy for addressing development and maintenance of Minimum Flows and Levels (MFLs) in priority water bodies
- A funding strategy for water resource development projects that shall be reasonable and sufficient to pay the cost of constructing or implementing all of the listed projects
- Consideration of how the options addressed serve the public interest or save costs overall by preventing the loss of natural resources or avoiding greater future public expenditures for water resource development or water supply development (unless adopted by rule, these considerations do not constitute final agency action)
- The technical data and information applicable to the planning area that are contained in the District Wide Management Plan (DWMP) (SFWMD, 2003) and necessary to support the regional water supply plans
- The MFLs established for water bodies within the planning area

Public Participation

Upon completion of the last of the regional water supply plans, the District decommissioned all four of the Regional Water Supply Plan Advisory Committees. The primary reason for decommissioning the advisory committees was that they had fulfilled their missions. The SFWMD Governing Board decommissioned the advisory committees during the March 2001 Governing Board meeting.

The SFWMD Governing Board established the Water Resources Advisory Commission (WRAC) in March 2001 as an advisory body to the Governing Board, and as a forum for improving public participation and decision-making in water resource issues affecting South Florida. The WRAC includes members from various interests (e.g., environmental, urban, and agricultural) in all four of the District's planning regions. The WRAC is the primary venue to conduct workshops, present information and receive public input on water resource issues. The WRAC held @ Kissimmee Basin Water Supply Regional Workshops from November 2003 through August 2004. In addition, @ sub-group meetings were held to focus on the technical aspects of the plan, such as the

groundwater modeling and the operational plans for the Istokpoga-Indian Prairie Basin. These sub-groups reported back during the regular WRAC workshops on the progress being made on these issues.

Coordination with Adjacent Districts

Coordination with the St. Johns River Water Management District (SJRWMD) and the Southwest Florida Water Management District (SWFWMD) has been ongoing throughout the water supply planning process. Representatives of all three Districts attended several of the regional water supply workshops and sub-group meetings. Coordination also occurs through regularly scheduled meetings coordinated under a Memorandum of Understanding (MOU) between the three Districts. The MOU includes agreements on coordination in water resource investigation, water resource planning, water resource regulation, and water shortage declarations.

The SFWMD also participates in the Water Planning Coordination Group meetings in which staff from neighboring water management districts and the FDEP discusses methodologies for demand projections, outlines and schedules for regional water supply plans, conservation and reuse. Consistency in water supply planning among the districts is a primary reason for these meetings.

Seminole Tribe Agreement

The Seminole Tribe of Florida, the State of Florida and the District executed a Water Rights Compact in 1987. The Compact provides a framework for harmonizing the relationship between the Tribe, Florida, and the District on issues concerning water resources. Of particular importance to the KB Plan are the Compact provisions concerning the Tribe's Brighton Reservation water entitlement. The Brighton Reservation water Entitlement was further detailed in an Agreement which was executed by the Tribe and District in November 1992 after publication of a District technical report. This Agreement outlines surface water control strategies to assure maximum reliability of delivering the 15 percent water entitlement set forth in the Compact for the Brighton Reservation, which is located in Glades County. The Agreement also outlines the schedule of releases from Lake Istokpoga and operation schedules for the pumps at S-71 and S-72. The Southern Basin Operation Plan developed under the KB Plan has direct bearing on this agreement and is explained in detail in **Chapter 3**, Resource Analyses.

Description of Planning Area

The Kissimmee Basin (KB) Planning Area (**Figure 2**) encompasses that portion of the SFWMD extending from southern Orange County, southward through the Kissimmee Chain of Lakes and the Kissimmee River, to the north shore of Lake Okeechobee. The area includes parts of Orange, Osceola, Polk, Highlands, Okeechobee, and Glades counties. The boundary of the KB Planning Area generally reflects the

drainage basin of the Kissimmee River and its tributaries. The northern and eastern portions of the Kissimmee Basin planning area are bounded by the St. Johns River Water Management District, while the western boundary is adjacent to the Southwest Florida Water Management District.

For planning purposes, the KB Plan area can be divided into northern and southern portions at the outlet located at the south end of Lake Kissimmee. The upper lake section (Upper Kissimmee Basin) has an area of 1,368 square miles, of which 176 square miles are lakes. The lower river system (Lower Kissimmee Basin) covers 2,109 square miles, of which 44 square miles are lakes (SFWMD GIS data). The Upper Kissimmee Basin includes a series of lakes linked by streams and canals referred to as the Kissimmee Chain of Lakes.

The 2000 Census (U.S. Bureau of the Census, 2001) indicates that Orange and Osceola Counties remain the most populated within the planning area. The 2000 population for the Kissimmee Basin portion of the counties is the following: 244,086 for Orange County; 171,976 for Osceola County; 7,259 for Polk County; 33,468 for Okeechobee County; 8,999 for Highlands County;, and 4,516 for Glades County. The county populations and the related existing and projected water use is discussed in detail in **Chapter 2**, Demand Estimates and Projections.

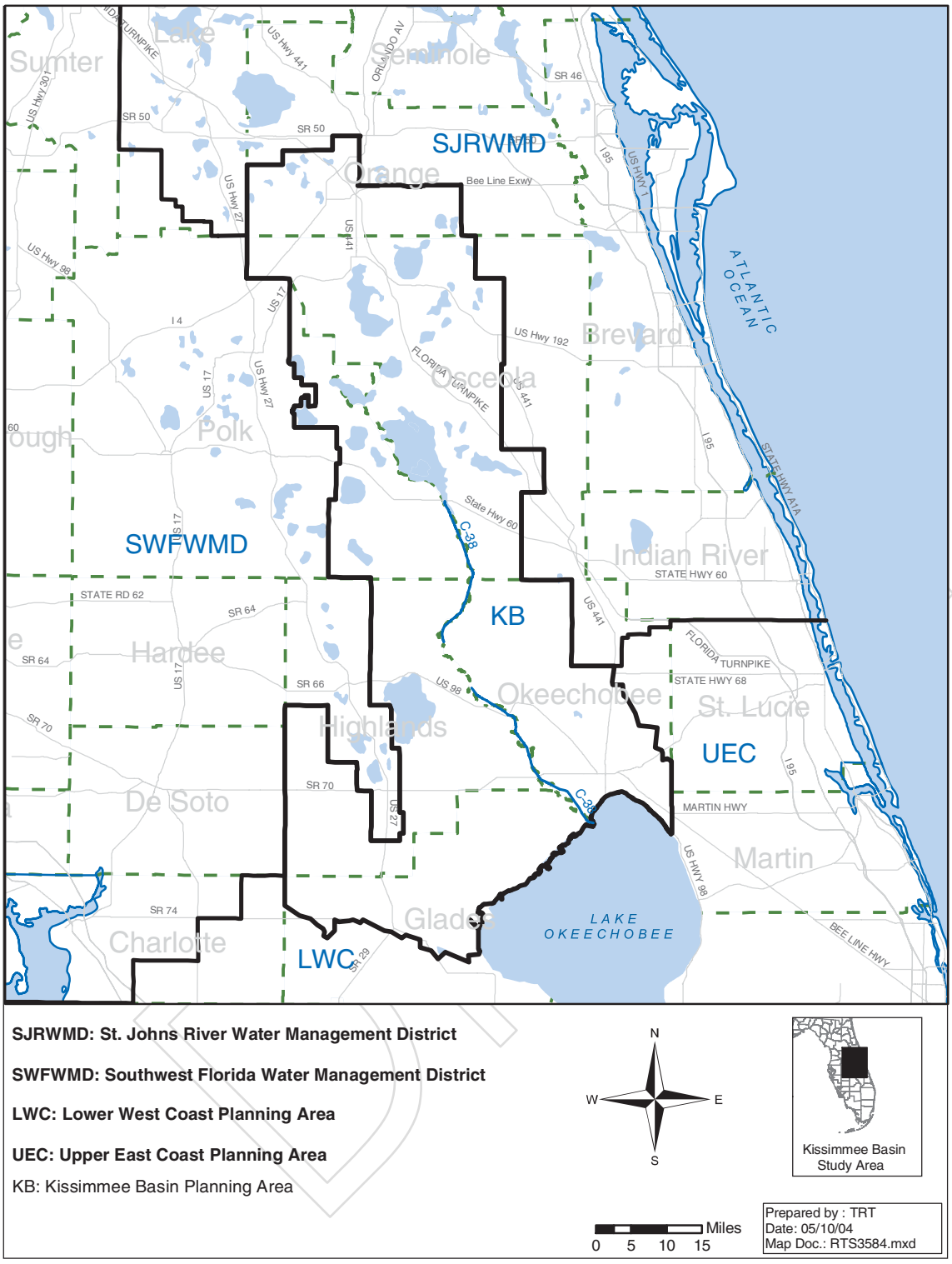

Figure 2. Kissimmee Basin Planning Area.

Accomplishments

As part of the 2000 Kissimmee Basin Water Supply Plan, eleven water resource development recommendations with thirty subtasks were made and organized under seven different strategies. In addition, three water supply development recommendations were made as part of the previous plan. All of these recommendations were developed to address unresolved issues in the 2000 planning effort, further efforts in defining supply alternatives or to make suggested changes in the District's regulatory rules. The recommendations, although varied, can be organized into one of four of the following general categories:

- Hydrologic investigations
- Resource protection criteria refinements
- Alternative supply development
- Regulatory changes and interdistrict coordination

In moving from issue identification to solution development, several water source options were considered to address the water supply issues identified. Ten water source options were initially identified to consider in the KB Plan Planning Area. These options either make additional water available from the same source or other sources (e.g., the Floridan aquifer), or they reduce demand (e.g., conservation). The ten options were:

- Stormwater reuse
- Stormwater drainage well recharge
- Reservoirs and aquifer storage and recovery (ASR)
- Continued Floridan aquifer use
- Surface water
- Conservation
- Wastewater reuse
- Utility interconnects
- Brackish groundwater water
- Surficial aquifer

Development of each of these options had regional, as well as local responsibilities. The water resource development options and the responsibilities at the regional and local levels were discussed in Chapter 5 of the 2000 KB Plan.

Twenty-three (23) of the thirty (30) tasks listed under the recommendations in the 2000 Plan were initiated. The remaining seven (7) tasks were not implemented due to their lack of feasibility or due to related projects schedules that delayed implementation. The water supply development recommendations implemented from the 2000 KB Plan

are presented in **Table 1**. The recommendations are listed in accordance with the order presented in the 2000 Plan. **Table 1** summarizes the efforts put forth by the District and its partners in implementing the eleven water resource recommendations.

Table 1. KB Water Supply Plan 2000 Water Resource Development Accomplishments.

Recommendation	Progress
Develop A Reuse Master Plan 1.1.a Develop a Reuse Plan The District will participate, along with local utilities, and other water management districts in the development of a regional wastewater reuse plan to optimize the use of reclaimed water to offset Floridan aquifer drawdown and avoid potential harm to the resources. Components of this plan will address storage; supplemental sources; utility interconnects; institutional framework and interlocal agreements; local, District and FDEP regulations; funding incentives; off-peak reclaimed water use and water conservation.	The District began development of a Central Florida Reuse Plan in FY2002. As part of this work the District collected baseline information from each utility within Osceola and Orange Counties and in portions of Polk and Lake Counties. The data included existing and projected information on infrastructure, disposal methods and customer use. The data was then used to estimate the impacts of aquifer recharge and demand reduction on future water supply.
1.1.b Hydrologic Investigation of Recharge The District will complete hydrologic investigations, in cooperation with local, state, and federal agencies, on the surficial, intermediate and Floridan aquifers in support of recharge optimization modeling. Focus of these studies should be on Orange, Osceola, and Polk counties and in areas where the risk of harm to the resources is estimated to be the greatest.	Starting in FY2001 the District began a program of installing and monitoring "paired" well sites. The focus of these efforts was in Orange and Osceola Counties, but also included developing sites in Polk and Okeechobee Counties. Between 2001 and 2004, the District installed or instrumented 39 new wells as part of 18 activated sites. In addition, the District contracted for construction and testing of 6 upper and lower Floridan aquifer wells, contracted with the U.S. Geologic Survey to conduct hydrologic studies of Orange and Polk Counties and entered into an agreement to monitor monthly water levels of 16 additional Floridan aquifer wells. This information was used to update previous modeling efforts.
1.1.c Reclaimed Water Injection Pilot The District should, in conjunction with local government, evaluate the benefits of deep aquifer injection of treated reclaimed water as a means of addressing water storage problems. A Deep Injection Aquifer Recharge Pilot Study is proposed, in partnership with a local sponsor, to investigate the feasibility of injecting treated reclaimed water into the Floridan aquifer as a form of aquifer recharge.	In FY2002 the District entered into an agreement with a contractor to conduct a feasibility assessment of indirect potable reuse project for central Florida. The study focused on the injection of potable quality reclaimed water into the fresh water portions of the Floridan aquifer system. The feasibility portion of the study, completed in May 2002, demonstrated development and operational costs similar to that of other water supply alternatives. As part of this work, a pilot testing program was developed. An excerpt from the report is supplied in Appendix @. Efforts to begin pilot testing with an exploratory well were postponed due to lack of local interest.

Table 1. KB Water Supply Plan 2000 Water Resource Development Accomplishments (Continued).

Recommendation	Progress
Storm Water Reuse Plan 1.2.a Evaluate Storm Water Systems Evaluate the regional storm water drainage systems to determine if water is available to augment wastewater reuse systems or to be used for local irrigation. Components of this plan will address storm water routing, water quality, collection of water to supplement reclaimed water systems and the use of drainage wells to enhance aquifer recharge.	Much of the storm water generated in southern Orange County and northern Osceola County makes its way to the Kissimmee Upper Chain of Lakes and its tributaries. An evaluation of the Lake Tohopekaliga, East Lake Tohopekaliga and its tributaries, Shingle Creek and Boggy Creek was conducted to determine the availability of water supplies from these sources. The study, completed in 2004 suggested that as much as @ MGD might be available from the system as a whole. The findings also show this source is drought prone and that development of storage is likely an important component of source reliability. Appendix @ provides a copy of these evaluations.
1.2.b Artificial Recharge Project Continue participation in the Artificial Recharge Demonstration Project to evaluate the regulatory, water quality and recharge aspects of drainage wells by participating in demonstration projects. This is a cooperative effort between SFWMD, SJRWMD, Orange County and the city of Orlando and other local governments.	The District continues to participate with the SJRWMD in their Artificial Recharge Project looking at passive treatment options for lake and street drainage wells and ways of maximizing recharge through infiltration basins. SJR has made progress in monitoring the reduction of chemical and biological contaminate concentrations of injected storm water drainage wells and possible treatment options. The Central Florida Aquifer Recharge Enhancement (CFARE) project has identified areas most likely to offset potential impacts through recharge.
1.2.c. Drainage Well Treatment Pilot The District should, in conjunction with local and state governmental agencies, evaluate the benefits of alternative treatment methods for storm water entering drainage wells. The quality of water entering existing and proposed drainage wells is of critical concern and must currently meet primary and secondary drinking water standards on new or modified wells. The proposal creates a demonstration project in conjunction with Orange County Utilities to identify wells receiving the worst water quality and to devise cost-effective treatment to meet the FDEP and USEPA water quality requirements for injection	In FY2002 the District, in conjunction with SJRWMD and Orange County Utilities, contracted with a local consulting firm to complete an inventory of drainage wells located in Orange, Seminole, Lake and Osceola Counties. The purpose of this study was to identify potential sites for pilot testing, develop a single digital source of information of all know wells and to provide preliminary treatment system design options for the full treatment of storm water prior to entry into these wells. The study was completed in February 2003. No work beyond the initial inventory was completed.

Table 1. KB Water Supply Plan 2000 Water Resource Development Accomplishments (Continued).

Recommendation	Progress
Minimize Floridan Aquifer Use Through Water Conservation 2.1.a Comprehensive Conservation Program The District should appoint two water conservation coordinators. These persons would be responsible for developing a comprehensive water conservation program for the District. The program will be designed to coordinate local government and water management district efforts in water conservation education.	In 2002 the District created a new section within the Water Supply Department to address water conservation initiatives. This new section contains 6 District staff and manages the Alternative Water Supply Funding Program, mobile irrigation labs and conservation incentive and outreach programs. The Alternative Water Supply Grant program was opened to the Kissimmee Basin planning area in 2003 and three grants, totaling more than $500,000, were provided to local utilities for FY2004 reuse projects. An estimated @ MGD in fresh water savings is expects from construction funded by the grants. In addition, other District staff is actively involved in the Florida Water Conservation Initiative being led by the Florida Department of Environmental Protection. The District also continues to participate on the Statewide Reuse Coordinating Committee to discuss statewide reuse issues.
2.1.b Individual Conservation Plans The District will encourage and assist in the development of effective water conservation plans for individual public water supply utilities.	Although the staff has worked with utilities to identify opportunities for water conservation though both the conservation and regulatory divisions of the District, no grants have been provided or tracking of the development of individual water conservation plans.
Evaluate Alternate Supplies 3.1.a. Surface Water Availability For the following surface water bodies, the District should conduct a comprehensive research project to: (1) determine the amount of water available for allocation without causing harm; (2) determine appropriate minimum flows and levels; (3) recommend integration of these minimum flows and levels with the water shortage program; and (4) propose a quantity of water in the Kissimmee River which should be reserved from use under Section 373.223(3), F.S. Each of the research project's recommendations should be implemented after incorporating the same in District rules. The following is a list of the water bodies which should be the subject of this comprehensive research project: Kissimmee River and Lake Kissimmee in 2004 and by 2006 for East Lake Tohopekaliga, Lake Tohopekaliga, Lake Hatchineha, Cypress Lake, Fish Lake, Lake Jackson, Lake Marian, Lake Pierce, and Lake Rosalie.	An evaluation of the Lake Tohopekaliga, East Lake Tohopekaliga and its tributaries, Shingle Creek and Boggy Creek was completed to determine water availability for supplies. The study, completed in 2004 suggested that as much as @ MGD may be available from the system. This source is drought prone however and the development of storage is an important component of source reliability. In addition, the District entered into an agreement with the City of Kissimmee to evaluate the use of an estimated 4 MGD from Shingle Creek for use in reuse augmentation and groundwater recharge. Each year the District updates the list of priority water bodies for the establishment of Minimum Flows and Levels (MFLs). The District added Lake Istokpoga to the list of priority water bodies to set minimum levels by 2005. The most recent MFLs priority list postponed the setting of MFLs for the Kissimmee River, Lake Kissimmee, Cypress Lake, Lake Rosalie, Lake

Table 1. KB Water Supply Plan 2000 Water Resource Development Accomplishments (Continued).

Recommendation	Progress
3.1.a. Surface Water Availability (Continued)	Marion, Lake Jackson and Lake Hatchineha to 200@. Lake Tohopekaliga, East Lake Tohopekaliga and the Alligator Chain of Lakes MFL's are set for 200@. The Butler Chain of Lakes and Fish Lake have MFL deadlines of 200@. A Minimum level for the Floridan aquifer in central Florida was postponed until 2006 to allow completion of groundwater modeling under the KB 2005 Plan Update.
3.1.b Coordinate with SJRWMD on St. Johns River The District should coordinate with the SJRWMD on the investigation of the St. Johns River as a water supply option for the Central Florida area.	The District has coordinated efforts with the SJRWMD on its investigation of the St. Johns River at Lake Jesup and at the S.R. 50 crossing. In addition, the SFWMD has participated in meetings regarding the related concentrate disposal study being conducted and reviewed reports generated by the SJRWMD consultants.
Optimize Use of Floridan Aquifer 3.2.a Hydrologic Investigations The District, in partnership with local governments and state and federal agencies will complete hydrologic investigations of the aquifer systems within the basin in support of the development of new or revised groundwater modeling tools. Focus of these studies should be on Orange, Osceola and Polk counties and in areas where the risk of harm to the resources is estimated to be the greatest.	From FY2000 to FY2002 the District budgeted for the construction and testing of a series of wells focused on obtaining new information on the Floridan aquifer system in central Florida, particularly the lower portion of the aquifer. A total of thirteen (13) wells were constructed and tested in the Floridan aquifer. Six of the wells were constructed into lower Floridan aquifer. These sites were constructed in cooperation with Reedy Creek Improvement District, Orange County, Orlando Utilities Commission and the SJRWMD.
3.2.b Groundwater Modeling New or revised groundwater models will be developed to make better predictions for the next planning cycle. These models are proposed to be developed in cooperation with the USGS, local governments, and other water management districts.	In 2002, the SJRWMD and SFWMD reached an agreement to utilize the previously developed East Central Florida (ECF) groundwater model as the basis for future water use simulations for Orange, Osceola, Polk, Lake and Seminole Counties. A modeling plan for updating the ECF model was cooperatively developed between the two Districts with SFWMD taking the initial lead in converting the model to simulate transient conditions. This updated model is the primary evaluation tool for development of the KB 2005 Plan Update.
Develop Backpumping Plan for Indian Prairie Basin 4.1 (a-e) Southern Indian Prairie Basin Operation Plan Recommendations (a-e) are all related to components of developing an operation plans for pumps G207, G208 and a possible new pump at structure G84.	During 2003 the District began work on the development a Southern Indian Prairie Operation Plan (SIPOP) for the purpose of identifying the operational conditions for District pumps G207 and G208 that move water from Lake Okeechobee to the lower Indian Prairie Basin. Work was completed on the plan in 2004 and is presented as Appendix @. The SIPOP also identifies the agreements necessary to improve efficient operation of pump G207 and G208 and

Table 1. KB Water Supply Plan 2000 Water Resource Development Accomplishments (Continued).

Recommendation	Progress
4.1 (a-e) Southern Indian Prairie Basin Operation Plan (Continued)	addresses minimum operational flows in the canals. The District chose not to pursue the design of pumps for location at structures S-82, S-83 and S-84 structures. An initial evaluation of the pump installation and operational costs determined that installation of pumps for the sole purpose of water supply was not feasible. In addition, the District chose not to extend the Lake Okeechobee Service area as the currently projected demands on this resource already pose a significant concern.
Kissimmee River Water Availability 4.2.a Availability of Water from the Kissimmee River The District should conduct a comprehensive research project to determine the amount of water required for reservation for the Kissimmee River, that water available from the river for allocation without causing harm, and establish a MFL for the river.	A review of the surface water hydraulics for the Kissimmee River valley suggests that the development of MFLs for the river and the connected lakes should be set on a system wide basis where possible. The District is currently developing a Long Term Management Plan (LTMP) for the lakes in the Kissimmee upper chain and expects completion of the management plan in 2005. The management plan is a key component in establishing the volume and timing of water availability in the Kissimmee River and the availability from the lakes and tributaries to the river including Lake Istokpoga. A deadline of 2006 has been set for establishing a MFL for the Kissimmee River and lakes Kissimmee, Hatchineha, Rosalie, Marion, Tiger, and Cypress. A deadline of 200@ has been established for setting a MFL in the Upper Kissimmee and Alligator Chain of Lakes.
4.2.b. Kissimmee River Reservation of Water Propose a quantity of water in the Kissimmee River that should be reserved from use under Section 373.223(3), F.S.	Until such time as the MFL can be established for the Kissimmee River, completion of the reservation of water for the river will need to be rescheduled.
Lake Istokpoga Management Plan 5.1.a Revise Operation Plan for Istokpoga The District should work with the U.S. Army Corp of Engineers in revising the operational plan for Lake Istokpoga and the Indian Prairie system. This work is proposed to be conducted as part of the Comprehensive Everglades Restoration Plan (CERP)	The District began work on the Istokpoga Management Plan in 2003; however any management plan developed for the Lake requires consideration of the possible revisions to the regulation schedule, potential new releases through the S-67 replacement structure on the Istokpoga canal, and the minimum levels being researched for the lake. Each of these items has completion dates scheduled for late 2004 or 2005. The District has postponed adoption of the Istokpoga Management Plan until such time these issues are resolved. In the interim, each of the related efforts is being incorporated into the KB Plan Update. Field activities in support of the plan will continue.

Table 1. KB Water Supply Plan 2000 Water Resource Development Accomplishments (Continued).

Recommendation	Progress
5.1.b Evaluate Minimum Canal Flows The District should evaluate the need for the minimum operation flow requirements under 40E-22 and modify them accordingly. Pending the results of the study, the District should initiate rulemaking efforts to modify Chapter 40E-22, F.A.C., to incorporate the revised flows.	A review of the minimum flow requirements as set forth in 40E-22, F.A.C. indicates that the flows were established as a means to maintain the historic run-off from the Indian Prairie Basin to Lake Okeechobee. Records show that these flows are generally met in drought years no greater than a 1-10 condition. In the drier years, the canal flows are usually met in the summer, but less often in the winter months or during periods of drought recovery. The Southern Indian Prairie Basin Operational Plan addresses the proposed changes to the minimum operational flow conditions.
5.1.c Complete MFL Work Technical Work for Lake Istokpoga The District should complete the technical work on establishing a MFL for Lake Istokpoga no later than 2003.	The District initially targeted 2004 for the adoption of an MFL on Lake Istokpoga. In 2003, in coordination with the review of the Lake Istokpoga Regulation Schedule, the MFL deadline was rescheduled for 2005. This date allows for a proposed MFL to be considered during the establishment of a new regulation schedule. Technical data for establishing the MFL was collected in 2004.
Evaluate Regional Storage (near Lake Istokpoga) 5.2.a Lake Istokpoga ASR Enter into an agreement with SWFWMD to conduct a feasibility assessment on an Aquifer Storage and Recovery (ASR) type facility on or near Lake Istokpoga. The District should work with the SWFWMD to assess the potential for interdistrict transfers of water.	The SWFWMD, after initially identifying the possible application if ASR at Lake Istokpoga has chosen not to pursue the option in lieu of other solutions. The SFWMD has chosen to continue to aggressively pursue ASR technology as part of the CERP ASR project. This project proposes to evaluate the feasibility of the surface water ASR technology by implementing pilot testing and water quality evaluations. Results of these efforts are directly applicable to the possible future application of ASR to Lake Istokpoga and the Indian Prairie Basin.
5.2.b North of Lake Okeechobee Reservoir The District will review the potential for placing the regional storage reservoir, identified in the Restudy to be located north of Lake Okeechobee, in a location that may assist in supplying water to the Indian Prairie Basin. The timing of this review will be coordinated with the implementation of the CERP effort.	As part of the Lake Okeechobee Watershed (LOW) process, the District is investigating several locations for the construction of a reservoir facility as part of the effort to reduce non-point source phosphorus entering the lake. At the time of this report, several sites had been short listed as possible locations for the Indian Prairie Basin and adjacent areas north of Lake Okeechobee. Final selection of the sites will be made using the Federal review process slated for completion in 2005. In addition, the District is reviewing opportunities for public-private parternerships that will also water supply benefits.

Table 1. KB Water Supply Plan 2000 Water Resource Development Accomplishments (Continued).

Recommendation	Progress
Related Implementation Strategies 6.1 Interdistrict Coordination The SFWMD will coordinate with the SJRWMD, SWFWMD and the FDEP for the purpose of maximizing consistent criteria and approaches concerning the following: resource protection criteria, hydrologic investigations, local sources first, minimum flows and levels and water shortage declarations.	The three water management districts of central Florida participate in several cooperative efforts. Among these efforts are: 1) the Water Planning Coordination Group (WPCG), which includes members of the five water management districts and the FDEP to deal with consistency on planning issues; 2) the Interdistrict Framework Group, which looks at consistency in the determination of MFLs; and 3) the Inter-District Irrigation Water Use Working Group, which is developing consistent methods of determining agricultural water use projections. SFWMD and SWFWMD participated in a public participation process known as the East Central Florida Water Initiative during 2002 - 2003. This effort brought together local elected officials and the general public to discuss water supply issues facing Central Florida. In addition, SFWMD, SJRWMD, SWFMWD and FDEP continue to meet regularly under the Memorandum of Understanding (MOU) which addresses water supply planning, hydrologic investigations, water shortage declarations and water use permitting. During the 2000-2001 drought, the SFWMD and SJRWMD coordinated water shortage declarations for Orange County to provide a consistance message to the public.
Consistency Between Planning and Water Use Permitting 7.0.a,b Continue Rulemaking Efforts and 20 Year Permits Continue ongoing rule development and rulemaking and considering granting 20 year permits for currently demonstrated non-harmful uses.	In August 2003 the Governing Board adopted the “B” list revisions to the water use rules. The rules became effective in September 2003. Nearly two dozen revisions to the rule including permit duration, wetland criteria, groundwater model evaluations, use of reclaimed water, supplemental irrigation requirements, aquifer storage and recovery, wellfield operation plans, pasture irrigation and local sources first were made.
7.0.c Lift Moratorium For Lake Istokpoga The District should consider rulemaking for the purpose of lifting the moratorium identified in 3.2.1(A) of the Basis of Review for Water Use Permitting for the Lake Istokpoga-Indian Prairie system after addressing the issues discussed in Recommendation 4.1.	The Southern Indian Prairie Basin Operational Plan (SIPOP) was finalized in @, 2004. This plan provided the operational details for pump G207 and G208 for delivery of 47,686 ac-ft water from Lake Okeechobee into the lower Indian Prairie Basin. The plan recommended that this quantity of additional supply could replace water previously delivered from Lake Istokpoga. This water could then be applied for supply deliveries for the entire (northern and southern) portions of the Indian Prairie Basin for new allocations.

Table 1. KB Water Supply Plan 2000 Water Resource Development Accomplishments (Continued).

Recommendation	Progress
7.0.d Resource Protection Criteria Rulemaking The District should continue with its research and rulemaking efforts in developing and adopting wetlands resource protection criteria.	The Water Use Wetland Protection Rule was adopted during the August 2003 SFWMD Governing Board meeting. The rule establishes criteria for the protection of wetlands from drawdown associated with water withdrawals. The rule identifies three categories of wetlands. There are two categories of wetlands with narrative standards and one category of wetland with a numerical standard adopted under the rule change. Additional research is being conducted to find numerical standards for the remaining to categories of wetlands.
7.0.e Sinkhole Investigation The District should complete a hydrologic investigation to further refine the relationship between water levels, geologic conditions and the formation of sinkholes. Results of this and existing studies will be the basis for future rulemaking efforts on sinkholes.	In 2001 the SFWMD entered into an agreement with the SJRWMD to evaluate the relationship between sinkholes and Floridan aquifer levels. Phase I of the project was to update the previous State-held sinkhole database and to establish a statistical relationship between the development of sinkholes and aquifer levels. The updated database includes approximately 570 documented sinkhole occurrences in central Florida from 1954 to 2001. While the updated database improved the statistical correlation between sinkhole occurrence and Floridan aquifer levels, it provided only limited insight on improving the current sinkhole criteria.